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RTD UPDATES: Vegetable Survey

Data updates for employees and colleagues of the Resources and Technology Division

Resources and Technology Division
Economic Research Service
U.S. Department of Agriculture

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Vegetable Survey Focuses on Pesticide, Fertilizer Use

This data release represents 820,900 vegetable crop acres planted in Arizona, Florida, Michigan, and Texas during 1990. More than 2,000 farms reported in this survey.

This survey of vegetable producers obtained pesticide use statistics to support the USDA Pesticide Data Program and to provide RTD with a data base to analyze the economic effect of alternative pesticide regulations, policies, and practices aimed at reducing pesticide use. The survey also collected data on the adoption of other pest control technologies, fertilizer applications, farm size, irrigation, output prices, and input expenditures.

Detailed estimates of pesticide and fertilizer application derived from the survey data were reported in **Agricultural Chemical Usage, 1990 Vegetables Summary**, AgCh1(91), Nat'l. Agr. Stat. Serv., U.S.

Dept. Agr., June 1991. Tables in this **RTD UPDATES** report additional information about the surveyed vegetable farms and their production practices. While care was taken to minimize statistical errors, the results are affected by sampling variability and non-sampling errors.

Similar pesticide use and production data are being compiled from a survey of California vegetable producers and from the State of California's administrative data on the pesticide applications. The California data, when compiled with the other four States, will offer broad coverage of major vegetable crops for analyzing chemical use and food safety issues. A similar survey which will cover vegetable producers in 15 States is being planned for 1992. For further information on this survey, contact Merritt Padgitt, Leader of Survey and Data Section, RTD (202)219-0433.

Monthly Data Releases Planned

RTD UPDATES, published by the Resources and Technology Division, is a new series of monthly data highlights relating to agricultural resources, the environment, food safety, global change, and technology. Surveys of farm operators and others knowledgeable about changing agricultural resource conditions provide vital information to the RTD research program and are the source of these data highlights. **RTD UPDATES**, limited to four pages, gives readers recent data acquisitions, with only minimal interpretation or analysis. This quick release of data should enhance your analytical efforts and decisions. Please contact the individual listed in the text of **RTD UPDATES** on the availability and timing of additional information. Different resource and technology issues will be featured each month, depending on availability of data.

Per Acre Fungicide Expenditures on Vegetable Farms

Dollars Per Acre

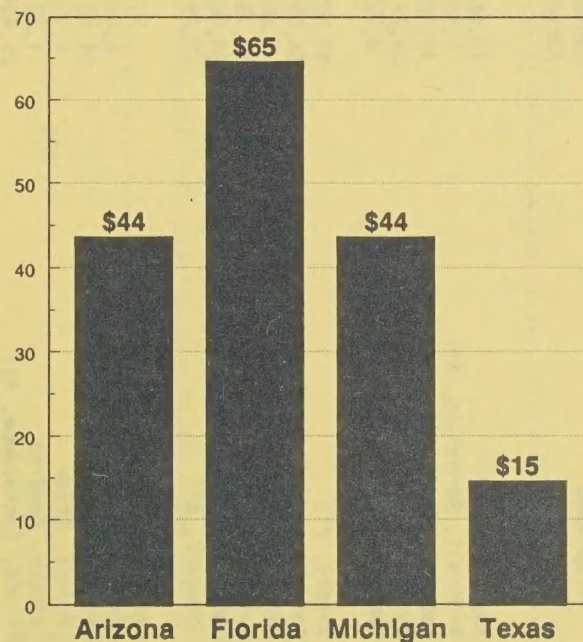


Table 1: Vegetable Crops Treated with Pesticides or Fertilizers, 1990 1/

Crop Name	Planted Acres	Pesticides					Fertilizer			
		All 2/	Fungicide	Herbicide	Insecticide	Other	All 2/	Nitrogen	Phosphate	Potash
						Acres				
Asparagus, All	19,866	19,670	9,673	19,054	18,098	1,406	17,753	17,127	8,343	13,278
Broccoli, Sprouting, All	9,506	9,388	2,137	8,575	9,065	90	9,341	9,279	8,629	1,336
Cabbage, Head, All	19,008	18,983	12,648	16,122	18,547	757	18,862	18,848	18,143	13,050
Carrots, All	24,260	24,081	18,280	23,921	17,655	2,509	20,659	20,428	18,398	15,336
Cauliflower, All	8,725	8,663	4,774	6,950	8,521	617	8,566	8,566	7,590	2,750
Celery, All	11,379	11,357	10,948	11,261	11,285	734	11,254	9,244	9,734	10,648
Corn, Sweet, Fresh Market	36,091	34,735	22,455	32,858	33,405	50	34,637	32,776	33,404	31,205
Corn, Sweet, Processing	1,687	1,687	0	1,664	1,146	0	1,675	1,675	1,235	1,235
Cucumbers, Fresh Market	19,734	18,736	15,535	12,012	17,619	3,031	19,481	19,312	15,925	16,909
Cucumbers, Processing	26,941	23,930	8,940	21,692	11,277	500	26,834	26,834	25,094	24,865
Eggplant, All	1,651	1,580	1,360	365	1,503	957	1,581	1,581	1,453	1,580
Escarole, Endive, Chicory	542	542	22	283	542	0	542	542	542	542
Greens, All	6,869	6,474	330	4,419	6,138	125	6,432	6,415	5,523	3,119
Lettuce, Head	51,031	50,813	22,107	47,165	50,447	1,612	51,018	51,018	45,427	14,287
Lettuce, Other	4,153	4,113	2,981	3,776	4,085	18	4,145	4,128	4,098	2,707
Lettuce, Romaine	1,301	1,273	493	1,186	1,271	18	1,301	1,301	1,231	933
Melons, Cantaloupe, All	25,930	24,000	19,581	14,552	17,114	4,241	25,589	24,459	25,328	14,276
Melons, Honeydew, All	7,155	6,770	6,014	5,652	6,038	1,166	7,059	7,059	7,019	5,289
Melons, Other	1,210	1,106	365	145	413	624	1,210	1,210	1,199	334
Melons, Watermelons, All	64,445	55,682	43,790	24,196	42,966	3,110	63,038	63,038	59,356	53,285
Okra, All	665	538	13	204	482	2	625	625	602	492
Onions, Dry, All	20,355	19,845	15,562	19,040	18,794	537	20,152	20,134	18,745	13,281
Onions, Green, All	1,168	1,096	171	730	800	22	1,160	1,160	751	459
Oriental Vegetables, All	1,419	1,357	1,005	233	1,345	52	1,280	1,277	1,271	1,100
Peas, Green, Fresh Market	850	600	8	393	588	213	659	657	649	649
Peas, Green, Processing	9,276	9,276	287	9,276	7,488	0	9,276	9,276	9,276	9,004
Peas, Other	5,599	4,482	556	3,380	4,089	24	4,925	4,919	4,796	2,880
Peppers, Bell, All	20,797	20,707	17,484	15,383	20,343	13,038	20,512	20,387	18,808	19,382
Peppers, Other	3,915	3,622	1,904	3,042	3,236	560	3,891	3,848	3,433	2,543
Pumpkins, All	2,440	1,992	1,546	1,724	877	4	2,036	2,027	1,833	1,815
Radishes, All	21,513	20,911	661	683	19,097	0	12,348	12,302	12,348	12,265
Snap Beans, Fresh Market	20,885	20,228	17,357	15,154	17,512	1,291	20,607	20,588	20,179	19,921
Snap Beans, Processing	17,304	17,239	227	16,790	15,152	0	16,902	16,902	16,094	13,350
Spinach, Fresh Market	4,177	4,087	1,018	3,875	3,474	171	4,131	4,131	3,953	2,512
Spinach, Processing	2,723	2,723	1,406	2,245	2,723	103	2,723	2,723	2,506	699
Squash, Summer	10,573	9,413	7,857	5,052	8,960	788	10,159	10,102	9,600	9,872
Squash, Winter	3,503	3,236	2,309	1,927	2,687	31	3,280	3,261	2,531	2,783
Strawberries, All	5,266	5,039	4,729	4,568	4,826	3,574	5,003	4,994	4,621	4,802
Tomatoes, Fresh Market	51,469	51,230	50,629	44,672	50,972	47,426	51,145	50,903	49,427	50,737
Tomatoes, Processing	3,833	3,833	2,857	3,633	2,720	2,471	3,827	3,817	3,731	3,069
All Other Vegetables	4,349	3,276	868	2,510	2,694	537	3,616	3,602	3,180	2,663

1/ Values for Arizona, Florida, Michigan, and Texas. 2/ Total acres receiving one or more applications.

Source: 1990 Vegetable Chemical Use Survey.

Table 2: Vegetable Acreage Treated with Common Pesticides and Tons Applied, Selected Crops, 1990 1/

Name	Fresh Market Tomatoes		Melons /2		Fresh Market Sweet Corn		Cucumbers for Processing		Head Lettuce	
	Treated 3/	Tons	Treated 3/	Tons	Treated 3/	Tons	Treated 3/	Tons	Treated 3/	Tons
Fungicides:										
Benomyl	18,502	12.5	29,384	8.7	0	0.0	1,032	1.5	0	0.0
Chlorothalonil	46,078	203.6	79,820	159.0	3,065	2.2	5,601	13.8	0	0.0
Copper hydroxide	37,526	218.6	3,180	4.8	0	0.0	867	0.3	0	0.0
Mancozeb	42,242	408.9	14,910	43.7	31,425	93.6	3,700	5.1	0	0.0
Maneb	6,684	20.1	4,210	12.0	5,850	6.0	0	0.0	13,975	8.2
Metalaxyl	17,656	10.1	40,826	9.5	0	0.0	4,672	0.7	6,565	1.0
Insecticide:										
Bt (Bacillus thuringiensis)	22,968	872.9 5/	20,333	589.7 5/	1,260	10.1 5/	984	46.1 5/	23,507	917.0 5/
Diazinon	7,414	4.5	4,060	2.0	140	0.1	2,254	1.0	25,779	9.1
Endosulfan	50,026	105.6	28,228	21.1	0	0.0	3,004	2.2	29,795	21.1
Esfenvalerate	39,836	4.5	9,460	0.7	6,357	0.9	1,974	0.1	0	0.0
Ethyl parathion	120	0.1	5,920	4.3	19,305	7.8	0	0.0	590	0.3
Methamidophos	43,534	77.7	20,920	25.4	0	0.0	0	0.0	0	0.0
Methomyl	29,980	29.4	30,902	15.4	55,598	128.5	5,806	2.3	47,897	39.5
Permethrin	44,994	16.7	17,680	5.4	14,621	2.3	0	0.0	47,317	12.9
Trifluralin	2,644	1.2	28,630	8.4	100	0.1	1,808	0.7	0	0.0
Herbicides:										
Monocarbamide	5,500	287.4	530	34.9	0	0.0	0	0.0	0	0.0
dihydrodrosen sulfate	42,350	21.2	8,480	2.7	0	0.0	984	0.4	8,240	1.7
Paraquat										
Other Chemicals: 4/										
Chloropecrin	31,350	832.5	950	4.1	0	0.0	0	0.0	0	0.0
Dichloropropene	550	40.8	5,260	96.7	0	0.0	0	0.0	0	0.0
Methyl bromide	51,150	4,204.7	2,120	257.6	0	0.0	0	0.0	0	0.0

1/ Values for Arizona, Florida, Michigan, and Texas are combined. 2/ Includes watermelons and cantaloupes. 3/ Acres treated one or more times with the identified pesticide. 4/ Includes desiccants, defoliants, soil fumigants, and growth regulators. 5/ Unit is expressed in 1,000 BTU (Billion International Units).

Source: 1990 Vegetable Chemical Use Survey.

Table 3: Distribution of Vegetable Farms by Farm Size Class, 1990

Farm Size Class	Arizona		Florida		Michigan		Texas		Total	
	Sample Farms	Percent of Farms 1/	Sample Farms	Percent of Farms 1/	Sample Farms	Percent of Farms 1/	Sample Farms	Percent of Farms 1/	Sample Farms	Percent of Farms 1/
Less than 50 Acres	4	5	179	27	164	26	102	14	449	22
50-99 Acres	20	22	221	35	289	39	149	30	679	35
100-499 Acres	5	6	101	15	126	17	72	18	304	16
500-999 Acres	23	23	81	12	77	11	104	18	285	13
1,000 or More Acres	49	44	75	11	70	7	127	21	321	13
Total	102	100	657	100	726	100	554	100	2,038	100

1/ Numbers are weighted to represent the percentage of all vegetable farms.

Source: 1990 Vegetable Chemical Use Survey.

Table 4: Adoption of Non-Chemical Pest Control Technologies, 1990

Non-Chemical Technologies	Arizona		Florida		Michigan		Texas		Total	
	Sample Farms	Percent of Farms 1/	Sample Farms	Percent of Farms 1/	Sample Farms	Percent of Farms 1/	Sample Farms	Percent of Farms 1/	Sample Farms	Percent of Farms 1/
Hand Hoeing 2/	71	91	282	59	455	68	391	88	1,199	72
Mechanical Cultivation 2/	25	31	253	53	485	80	267	57	1,030	65
Mulch 2/	5	7	223	39	117	18	36	5	381	19
Beneficial Insects 3/	1	4	17	8	17	6	16	9	51	7
Biological Control 3/	4	16	31	16	22	7	21	7	78	10
Crop Rotation 3/	5	22	10	4	119	39	39	19	173	25
Cover Crop 2/	0	0	2	0	13	2	0	0	15	1
Other Methods 2/	23	29	36	6	38	9	33	6	130	8

1/ Numbers are weighted to represent the percentage all vegetable farms. 2/ Completed chemical use survey sample. 3/ Data on these technologies were collected for a subsample of farms from the chemical use survey.

Source: 1990 Vegetable Chemical Use Survey.

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